UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

26171

7590

11/12/2008

FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022 EXAMINER

NGO, HUYEN LE

ART UNIT PAPER NUMBER

2871 DATE MAILED: 11/12/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735.885	12/16/2003	Takeshi Nishi	07977-121003	4773

TITLE OF INVENTION: A LIQUID CRYSTAL ELECTRO-OPTICAL DEVICE AND METHOD OF DRIVING THE SAME.

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	02/12/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE

Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

or <u>Fax</u> (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where n

ppropriate. All further ndicated unless correcte naintenance fee notifica	correspondence including below or directed oth tions.	g the Patent, advance of terwise in Block 1, by (a	rders and notification a) specifying a new co	of m orresp	naintenance fees woondence address;	rill be and/or	mailed to the current (b) indicating a separ	correspondence address as rate "FEE ADDRESS" for
CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)					Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.			
26171	7590 11/12	/2008		nave			of Mailing or Transn	niccian
FISH & RICHA P.O. BOX 1022 MINNEAPOLIS	ARDSON P.C. 5, MN 55440-1022			I here State addre trans	eby certify that this Postal Service wessed to the Mail mitted to the USP.	is Fee(state) ith suf Stop ΓΟ (57	s) Transmittal is being ficient postage for first ISSUE FEE address a 1) 273-2885, on the da	deposited with the United t class mail in an envelope above, or being facsimile tte indicated below.
								(Depositor's name)
								(Signature)
								(Date)
APPLICATION NO.	FILING DATE		FIRST NAMED INVEN	TOR		ATTO	RNEY DOCKET NO.	CONFIRMATION NO.
10/735,885	12/16/2003		Takeshi Nishi			(07977-121003	4773
APPLN. TYPE	SMALL ENTITY	ELECTRO-OPTICAL I	PUBLICATION FEE D		PREV. PAID ISSUE		TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	OL	\$0	JIED	\$1810	02/12/2009
*			· •			\$1010	02/12/2009	
EXAM		ART UNIT 2871	349-033000					
NGO, HU			2. For printing on t	he na	atent front page lis	t		
. Change of correspondence address or indication of "Fee Address" (37 :FR 1.363). Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.			(1) the names of u or agents OR, alter (2) the name of a s registered attorney 2 registered patent	nes of up to 3 registered patent attorneys 1				
PLEASE NOTE: Unl	less an assignee is identi h in 37 CFR 3.11. Comp	A TO BE PRINTED ON The field below, no assignee eletion of this form is NO	data will appear on th	ne pa g an a	tent. If an assigne ssignment.			ocument has been filed for
lease check the appropr	iate assignee category or	categories (will not be pr	rinted on the patent):		Individual 🖵 Co	rporati	on or other private gro	up entity Government
a. The following fee(s): Issue Fee Publication Fee (N Advance Order - 4	 4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) A check is enclosed. Payment by credit card. Form PTO-2038 is attached. The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number (enclose an extra copy of this form). 							
_ ~ .	tus (from status indicated s SMALL ENTITY statu	· · · · · · · · · · · · · · · · · · ·	□ b. Applicant is no	long	er claiming SMAI	LEN	ΓΙΤΥ status. See 37 CF	(P. 1.27(a)(2)
NOTE: The Issue Fee an	d Publication Fee (if requ		d from anyone other th	_	-			e assignee or other party in
Authorized Signature					Date			
Typed or printed name					•			
This collection of inform n application. Confident ubmitting the completed nis form and/or suggesti sox 1450, Alexandria, V slexandria. Virginia 223	tiality is governed by 35 I application form to the ions for reducing this but Virginia 22313-1450. DC	FR 1.311. The informatic U.S.C. 122 and 37 CFR USPTO. Time will vary den, should be sent to th NOT SEND FEES OR	on is required to obtain 1.14. This collection is depending upon the i e Chief Information O COMPLETED FORM	or restindivi	etain a benefit by the mated to take 12 r dual case. Any co r, U.S. Patent and THIS ADDRESS	ne publ ninutes mment Traden	ic which is to file (and to complete, including s on the amount of tin nark Office, U.S. Depa D TO: Commissioner f	by the USPTO to process) g gathering, preparing, and he you require to complete rtment of Commerce, P.O. or Patents, P.O. Box 1450,

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450

P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,885	12/16/2003	Takeshi Nishi	07977-121003	4773
26171 7	590 11/12/2008		EXAM	INER
FISH & RICHARDSON P.C.			NGO, HU	IYEN LE
P.O. BOX 1022			ART UNIT	PAPER NUMBER
MINNEAPOLIS,	MN 55440-1022		2871	
			DATE MAILED: 11/12/200	8

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

	Application No.	Applicant(s)		
	дриосион но.			
Notice of Allowability	10/735,885	NISHI ET AL.		
Notice of Allowability	Examiner	Art Unit		
	Julie-Huyen L. Ngo	2871		
The MAILING DATE of this communication apperature All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIOF of the Office or upon petition by the applicant. See 37 CFR 1.313	(OR REMAINS) CLOSED in thi or other appropriate communic IGHTS. This application is subj	s application. If not included ation will be mailed in due course. THIS	/e	
1. This communication is responsive to <u>10/10/08</u> .				
2. The allowed claim(s) is/are 11-28.				
 3. Acknowledgment is made of a claim for foreign priority unally All b) Some* c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 3. Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)). 	been received. been received in Application N	o		
* Certified copies not received:				
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONM THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. 4. A SUBSTITUTE OATH OR DECLARATION must be subm	IENT of this application.			
INFORMAL PATENT APPLICATION (PTO-152) which give	es reason(s) why the oath or de			
5. CORRECTED DRAWINGS (as "replacement sheets") mus				
(a) including changes required by the Notice of Draftspers	•	PTO-948) attached		
1) hereto or 2) to Paper No./Mail Date				
(b) ☐ including changes required by the attached Examiner's Paper No./Mail Date	s Amendment / Comment or in t	he Office action of		
Identifying indicia such as the application number (see 37 CFR 1 each sheet. Replacement sheet(s) should be labeled as such in the				
6. DEPOSIT OF and/or INFORMATION about the depo- attached Examiner's comment regarding REQUIREMENT				
Attachment(s)	_			
1. Notice of References Cited (PTO-892)		nal Patent Application		
2. Notice of Draftperson's Patent Drawing Review (PTO-948)	6.			
3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date	7. ☐ Examiner's Am	endment/Comment		
Examiner's Comment Regarding Requirement for Deposit of Biological Material	8. 🛛 Examiner's Sta	tement of Reasons for Allowance		
-	9.			
/Julie-Huyen L. Ngo/				
Primary Examiner Art Unit: 2871				
AIT OHIL 2011				

DETAILED ACTION

Allowable Subject Matter

Claims 11-28 are allowed.

Reasons for Allowance

Claims 11-28 are allowed because there is no prior art of record that either teaches or suggests a liquid crystal electro-optical device and a method of driving said device comprising the specific limitations recited in the following claims:

Claims 11 and 12:

a light modulating layer interposed between the pair of substrates, said light modulating layer including a liquid crystal, an optically active substance, and a dichroic dye; and electrodes for applying an electric field in a direction parallel with a pair of substrates, wherein a cell thickness d between the pair of substrates is in a range of $1\mu m < d < 10 \ \mu m$.

<u>Claims 13 and 15:</u>

the liquid crystal molecules and the dichroic dye molecules are aligned in the direction parallel with the substrates by the electric field to obtain a light transmission state.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Application/Control Number: 10/735,885 Page 3

Art Unit: 2871

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Julie-Huyen L. Ngo whose telephone number is (571)

272-2295. The examiner can normally be reached on M-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Julie-Huyen L. Ngo/ Primary Examiner

Art Unit 2871